

SUMMARY OF FINDINGS AND RECOMMENDATIONS



LUMMI NATION CLIMATE CHANGE MITIGATION AND ADAPTATION PLAN And LUMMI NATION STRATEGIC ENERGY PLAN

Lummi Water Resources Division
Lummi Natural Resources Department
February 2016



Presentation Outline

- Planning in context
 - Goals and objectives of the Lummi Nation Climate Change Mitigation and Adaptation Plan (CC Plan) and why implementing a CC Plan is important
 - Goals and objectives of the Lummi Nation Strategic Energy (SEP) and why implementing a SEP is important
 - Recommendations of the CC Plan and SEP
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Planning in Context

- LIBC Resolution No. 1993-121 directed the Community Development Director to explore a proposal for a tribally owned and operated gas-fired cogeneration facility on the Reservation
 - Cogeneration facility development was determined not to be economically viable
 - Established a now long-standing goal to become more energy self-sufficient
- Lummi Indian Reservation Wind Energy Feasibility Assessment Project (2009-2012)
 - Wind energy development was determined not to be economically viable
 - Continued pursuit of energy self-sufficiency, added goal of energy production from renewable resources



Planning in Context

- LIBC Resolution No. 2014-084 *Guiding Principles to Address Climate Change* directed the LIBC administration to:
 - Develop goals for addressing the potential effects of climate change
 - Develop policies and strategies guided by these goals that will enable climate mitigation and adaptation
 - Implement programmatic and/or regulatory actions to address the potential effects of climate change and contribute to the reduction of the causes of climate change



CC Plan Goals and Objectives

- CC Plan Goal:
 - Prepare the Lummi Nation to become more resilient to climate change
 - Objectives:
 - Identify potential climate change impacts
 - Assess the vulnerability of the Lummi Nation to these impacts
 - Develop mitigation strategies to reduce the Lummi Nation's contribution to climate change
 - Develop adaptation strategies to minimize climate change impacts that cannot be avoided
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The Importance of a CC Plan

- Climate change impacts are occurring now.
- Current and future climate change impacts include:
 - Increasing air temperatures (i.e., global warming)
 - Changes in precipitation (i.e., wetter winters, drier summers)
 - Changes in streamflow (i.e., higher winter flows, earlier spring snowmelt, lower summer flows)
 - Increasing extent, frequency, and/or intensity of extreme weather events (e.g., heat waves, drought, wildfire, floods)
 - Increasing sea surface temperatures
 - Accelerated sea level rise
 - Ocean acidification



The Importance of a CC Plan

- The natural, social, and built systems of the Lummi Nation have a generally high level of vulnerability to climate change impacts.
- Within these systems, there are many sectors of specific concern:
 - Natural System: water resources, coastal resources, forest resources, and fish, wildlife, and traditional use plants
 - Social System: human health, emergency services, and cultural resources
 - Built System: land use, transportation, and utilities



The Importance of a CC Plan

- Some climate change impacts cannot be avoided – preparing for these impacts now will be more effective than responding to future disasters.
- That is, if your adaptation goal is to reduce the risk of property damage from riverine flooding, then potential adaptation strategies may include:
 - Strengthening regulatory flood risk reduction measures
 - Upgrading infrastructure to accommodate or protect against flooding
 - Pursuing land acquisition, building relocation or demolition, and open space preservation in special flood hazard areas
 - Protect existing development in flood-prone areas



SEP Goals and Objectives

- SEP Goals:
 - Reduce emissions from energy production and use that contribute to global climate change, air quality degradation, and other adverse environmental and human health impacts
 - Improve economic and energy self-sufficiency
 - Objectives:
 - Evaluate current and future energy needs and resources
 - Provide recommendations for improving energy efficiency practices
 - Provide recommendations for developing renewable energy resources
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The Importance of a SEP

- The production and use of fossil fuels (e.g., coal, petroleum, propane) contributes to the causes of climate change, primarily through emissions of carbon dioxide – and future climate change will be much worse if we don't start reducing emissions now.
- Methods to reduce carbon emissions include:
 - Practicing energy conservation
 - Improving energy efficiency
 - Utilizing transportation alternatives
 - Developing renewable energy resources



The Importance of a SEP

- Fossil fuels are a nonrenewable resource and the cost of energy derived from fossil fuels is increasing and/or becoming increasingly volatile over the long-term.
- Reducing energy use and/or producing energy from renewable energy resources can:
 - Save money on energy bills
 - Provide a higher level of energy reliability and security
 - Provide opportunities for economic development and job creation
 - Minimize adverse environmental and human health impacts from energy production and use



CC Plan Recommendations:

- Establish and maintain a Climate Preparedness Committee comprised of at least one representative each from the LIBC, the Natural Resources Department, the Planning Department, the Cultural Resources Department and two representatives from the General Council to provide guidance and oversight in climate mitigation and adaptation planning.
 - Provide community education and outreach to increase awareness of and preparation for climate change impacts and engender community support for climate mitigation and adaption.
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Recommendations: (cont.)

- Focus initial efforts in climate mitigation and adaptation on the following high priority items:
 - Improve building-, behavior-, and transportation-related energy efficiency
 - Improve emergency preparedness planning and response capabilities
 - Implement flood risk reduction measures
 - Implement wildfire risk reduction measures
 - Reduce existing stressors to salmon populations
 - Improve water quality in shellfish harvest areas
 - Restore and protect instream flow in the Nooksack River basin
 - Protect the potable groundwater systems on and adjacent to the Reservation



Recommendations: (cont.)

- Further refine and prioritize climate mitigation and adaptation strategies for implementation based on guidance of the Climate Preparedness Committee, community feedback, the recommendations of this report, and other vulnerability assessments as appropriate.
 - Identify and obtain funding to implement selected mitigation and adaptation strategies and determine which tribal entity will be responsible for implementation.
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SEP Recommendations:

- Adopt an LIBC resolution that establishes an achievable but ambitious goals for reducing energy use on and carbon emissions from the Lummi Indian Reservation
 - Goals should provide clear direction and set specific standards against which improvements may be measured (e.g., “reduce emissions by 15 percent from 2010 levels by 2025”)
- Create a permanent, full-time Energy Management Specialist position within the Lummi Planning and Public Works Department – can be grant funded.
 - Estimated budget approximately \$100,000/year



Recommendations: (cont.)

- Focus initial efforts in energy efficiency improvement and renewable energy development on the following high priority items:
 - Conduct energy audits at tribal facilities and prioritize the implementation of energy efficiency practices based on the findings of these energy audits
 - Institutionalize the Residential Energy Efficiency Pilot Program
 - Encourage walking, biking, carpooling, and public transportation on the Reservation through employer incentives and infrastructure improvements
 - Mandate high energy efficiency standards in new construction
 - Purchase green power to offset some or all electricity use at selected tribal institutions
 - Continue to pursue photovoltaic (solar) electricity production and geothermal heating/cooling in new or substantially improved tribal facilities



Recommendations: (cont.)

- Provide community education and outreach to increase awareness of the issues surrounding energy and climate change and increase participation in energy conservation programs
- Identify and obtain funding to implement energy efficiency improvements and development of renewable energy resources



Conclusion

- The potential impacts of climate change have a direct, serious, and substantial adverse effect on the political integrity, economic security, health, and welfare of the Lummi Nation, its treaty rights, its members, and all persons present on the Reservation.
 - A CC Plan and a SEP are needed to guide efforts to reduce carbon emissions and prepare for the impacts of climate change.
 - Approval of the Lummi Nation Climate Change Mitigation and Adaptation Plan and the Lummi Nation Strategic Energy Plan is an important step toward making the Lummi Nation more resilient to climate change.
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Questions?